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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,484

03/04/2005

Jigeng Xu

4662-4

1085

23117

7590

03/29/2007

NIXON & VANDERHYE, PC

901 NORTH GLEBE ROAD, 11TH FLOOR

ARLINGTON, VA 22203

EXAMINER

HAMILTON, CYNTHIA

ART UNIT

PAPER NUMBER

1752

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

8

<b>Office Action Summary</b>	Application No.		Applicant(s)	
	10/526,484		XU, JIGENG	
	Examiner		Art Unit	
	Cynthia Hamilton		1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,6-30 and 35-64 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 6-9, 11-13, 15-30, 36-40, 42-44, 46-64 is/are rejected.
- 7) ☒ Claim(s) 10,14,35,36,41 and 45 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claim 36 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 36 limits to "at least 25 wt%, relative to the total weight of the composition, of said one or more aromatic epoxies". Since claim 30 upon which claim 36 depends already limits the same one or more aromatic epoxies to "at least 50 wt%, relative to the total weight of the composition" in lines 3-5. Claim 36 fails to further limit claim 30 in any manner. Claim 36 will be examined in the broadest sense of the "at least 25 wt%, relative to the total weight of the composition, of said one or more aromatic epoxies" instead of the limit of claim 30, as this is the broadest reasonable interpretation of the wording set forth.

2. The examiner notes for the record that the combination of "at least 50 wt%, relative to the total weight of the composition, of one or more aromatic epoxies" with the required presence of "one or more oxetanes" in all of the claims with the exception of claim 36, sets forth new limits heretofore unexamined, i. e. the combination of these two limits with respect to the composition as a whole. Claim 36 is a new claim as of the last amendment to the claims.

1. Claim 36 is rejected under 35 U.S.C. 102(e) as being anticipated by Thies et al (WO 03/093901 A1) as evidenced by US Provisional Application No. 60/377239.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e).

This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor

Art Unit: 1752

of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The examiner notes that WO 03/093901 has a possible effective filing date of May 3, 2003 because the International Application for Thies et al was filed after November 11, 2000, in English and US is cited as a Designated State. Thus, for those parts of Thies et al which are fully disclosed both in WO 03/093901 A1 and US Provisional Application No. 60/377239 the effective filing date antedates applicants' earliest possible filing date of October 18, 2002. With respect to instant claim 36, the Examples 12 and 13 of Thies et al which are present both in WO 03/093901 A1 and US Provisional Application No. 60/377239 anticipate the instant composition, method of making and object made. The E10 is given and the average Elongation at break is given. With respect to heat deflection temperature, the compositions of Thies et al are so close to that of applicants' compositions that they must inherently have the required property set forth. The examiner notes that Thies et al have epoxy blend, acrylate and oxetane present as required as well.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 6-9, 11-13, 15-26, 28-30, 37-40, 42-44, 46-57 and 59-64 are rejected under 35 U.S.C. 103(a) as being obvious over Thies et al (WO 03/093901 A1 and US 7,183,040) as evidenced by US Provisional Application No. 60/377239. All cites are to the WO document

Art Unit: 1752

cited in the last office action. The examiner cites this reference of record again as it appears to be missing from the record. The equivalent US document is also made of record. In view of the rejections having to be made anew because of new limitations, this action will be properly held final even in view of this new citation.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C.

103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2). The examiner notes that WO 03/093901 has a possible effective filing date of May 3, 2003 because the International Application for Thies et al was filed after November 11, 2000, in English and US is cited as a Designated State. Thus, for those parts of Thies et al which are fully disclosed both in WO 03/093901 A1 and US Provisional Application No. 60/377239 the effective filing date antedates applicants' earliest possible filing date of October 18, 2002. With respect to instant claims 1-2, 6-9, 11-13, 15-26,

Art Unit: 1752

28-30, 37-40, 42-44, 46-57 and 59-64, the compositions of Thies et al while not specifically disclosing a photosensitive composition wherein the aromatic epoxy compound is present in 50 wt% or more of the whole composition used in methods of molding, Thies does teach in Example 12 that up to 62.5 wt% of aromatic epoxy can be used and when mixed with an linking ester epoxy of cycloaliphatic nature at least 46.7 wt% could be used. When considering the range of linking aliphatic ester compound usable in the Thies et al compositions set forth on page 6, the range is from zero to 25 wt%. The range of other epoxy in the preferred embodiment of Theis et al is set forth in the paragraph bridging pages 3-4. The range of the other epoxy is from 10-80 wt%. Considering the working examples 11, 12 and 13 on pages 32-33 of Thies et al wherein the other epoxy is the aromatic epoxy alone then in view of the teachings and ranges set forth, mixtures of the Linking Ester Epoxy compound of Thies et al from anywhere above zero to 10 wt% would have been *prima facie* obvious as would the amount of aromatic epoxy from 62.4 wt% to 43.6 wt % would have been *prima facie* obvious in view of the ranges generally taught. The examiner notes that with respect to the making of the article and the article claimed by applicants there is no requirement that the article have the properties of elongation and heat deflection set forth, but that if "fully cured" such properties were possible. In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a *prima facie* case of obviousness exists. *In re Werthheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 UAPQ2d 1934 (Fed. Cir. 1990). See particularly MPEP 2144.05. With respect to the properties of elongation at break, all three examples of Theis et al noted have said properties thus, mixtures from all epoxy aromatic to the mixture of the other examples would have also been expected to have similar properties. As to the intended property of full cure, the

Art Unit: 1752

compositions are held to inherently be able to obtain such as they are made from the same components claimed essentially.

4. Claims 27 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thies et al (WO 03/093901 A1 and US 7,183,040) as evidenced by US Provisional Application No. 60/377239 as applied to claims 1 or 30 above, and further in view of Neckers (5,514,519) or Popat et al (6,133,336) or Nguyen et al. (CA 2 324 794 A1 or US 6664024). The addition of color changing components to stereolithographic compositions is well known in the art. With respect to instant claims 27 and 58, the addition of color changing components to the compositions of Thies et al (WO 03/093901 A1) as evidenced by US Provisional Application No. 60/377239 for the reasons of Nguyen et al which adds a component that goes from colorless to colored in order to avoid the reduction of shaping speed and deterioration of mechanical properties as set forth on pages 2-3, or for the reasons set forth by Neckers of giving to the final model distinct color differentiation of one part from another of the same model or for the reasons for Popat et al for forming a selectively colored ornamental and industrial article such as a medical article would have made prima facie obvious the addition of such to any stereolithographic composition of similar nature for the same reasons.

5. Claims 10, 14, 35, 41 and 45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

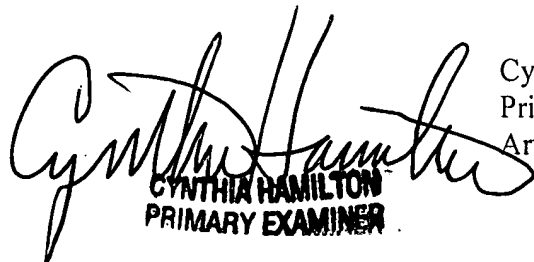
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331. The examiner can normally be reached on Monday through Friday 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Cynthia Hamilton  
Primary Examiner  
Art Unit 1752  
**CYNTHIA HAMILTON  
PRIMARY EXAMINER**

March 27, 2007